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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 09/644,464 | 08/23/2000 | Atul Garg | E0862 | 2626 |

7590 01/20/2004

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| EXAMINER | |
|---|---|
| ZHONG, CHAD | |
| **ART UNIT** | **PAPER NUMBER** |
| 2154 | 3 |

DATE MAILED: 01/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PRG

| Office Action Summary | Application No. 09/644,464 | Applicant(s) GARG ET AL. | |
|---|---|---|---|
| | Examiner Chad Zhong | Art Unit 2154 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *11 April 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *2* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

**Detailed Action**

1. Claims 1-23 are presented for examination.

2. It is noted that although the present application does contain line numbers in specification and claims, the line numbers in the claims do not correspond to the preferred format. The preferred format is to number each line of every claim, with each claim beginning with line 1. For ease of reference by both the Examiner and Applicant all future correspondence should include the recommended line numbering.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. The following terms lack antecedent basis:

i. the highest priority data frame – claim 1, 10, 14.

ii. the address location – claim 4, 17.

iii. the priority – claim 10.

iv. the address – claim 10.

b. The claim language in the following claims is murky or not clearly understood:

i. As per claim 1 (line 11), claim 7 (line 2), claim 11 (line 2), claim 14 (line 15), claim 20 (line 2), it is not clearly understood whether there is a difference

between a frame refers to "data frame" in claims 1, 10 and 14, (i.e. if they are the same, the word such as "said" or "the" must be used).

ii. As per claim 2 (line 3), claim 15 (line 3), it is not clearly understood whether "an address" refers to "an address" in claim 1, 14 (i.e. if they are the same, the word such as "said" or "the" must be used).

iii. As per claim 10, line 3, it is not clearly understood which device is reading data (i.e. priority resolution circuit?).

iv. As per claim 10, line 5, it is not clearly understood which device is locating a frame buffer address (i.e. the priority resolution circuit?).

v. As per claim 10, line7, it is not clearly understood which component is writing the address (i.e. the frame transmission circuit?).

vi. As per claim 10, line 9, it is not clearly understood which component is responsible for overwriting the address (i.e. the frame buffer management?).

vii. As per claim 10, line 12, it is not clearly understood which component is responsible for retrieving the new highest priority data frame (i.e. the frame transmission?).

viii. As per claim 23, line 2, it is not clearly understood "a random access memory frame buffer" refers to "a random access memory frame buffer" in claim 16, lines 1-2 (i.e. if they are the same, the word such as "said" or "the" must be used).

*Claim Rejections - 35 USC § 102*

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claim 1-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Firoozmand et al. (hereinafter Firoozmand) US 5,043,981.

7. As per claims 1 and 14, Firoozmand teaches a frame processing unit for transmitting data frames of varying priorities on a network medium comprising:

a) a frame buffer management circuit receiving data frames and storing data frames in a buffer memory (Col. 7, lines 46-64);

b) a register storing data representing the existence of data frames of a designated priority in the buffer memory (Col. 7, lines 26-36);

c) a priority resolution circuit, reading the register to determine the highest priority data frame available for transmission (Col. 8, lines 10-12); and

d) a frame transmission circuit receiving an address of the highest priority data frame from the priority resolution circuit (Col. 8, lines 13-17), receiving a signal from a media access controller indicating that a frame may be transmitted (Col. 8, lines 18-23), retrieving a frame from the buffer memory corresponding to the address (Col. 7, lines 26-36), and making the data frame available to the media access controller for transmitting to the network medium (Col. 8, lines 24-40; Col. 10, lines 24-27).

8. As per claims 2 and 15, Firoozmand teaches wherein priority resolution circuit continually retrieves data from the register to determine highest priority data frame in the buffer

memory and replaces an address previously provided to the frame transmission circuit if a higher priority frame becomes available (Col. 13, lines 13-17).

9. As per claims 3 and 16, Firoozmand teaches wherein the frame buffer is a random access memory frame buffer (Col. 7, lines 11-12).

10. As per claims 4 and 17, Firoozmand teaches the frame processing unit further including a random access memory pointer table storing an indicator of the priority for each frame in the frame buffer along with the address location of each frame in the fame buffer (Col. 7, lines 26-36).

11. As per claims 5 and 18, Firoozmand teaches wherein the frame buffer management circuit locates the address of the highest priority frame, as indicated by the register, from the random access memory pointer table (Col. 8, lines 10-23).

12. As per claim 6 and 19, Firoozmand teaches wherein the media access controller receives the frame from the frame transmission circuit and makes each frame available to physical layer circuitry (Col. 10, lines 24-27).

13. As per claims 7 and 20, Firoozmand teaches wherein the frame transmission frame circuit, upon transmission of a frame to the media access controller, sends a command to the priority resolution circuit which in turn updates the register and the random access memory pointer table to reflect transmission of the frame (Col. 13, lines 36-45, lines 51-55).

14. As per claims 8 and 21, Firoozmand teaches wherein the frame buffer management circuit receives and stores data frames from an application via a peripheral bus (Col. 7, lines 53-64).

15. As per claims 9 and 22, Firoozmand teaches wherein data received via the peripheral bus may include data of varying priorities as assigned by the application (Col. 8, lines 10-12).

16. As per claim 23, Firoozmand teaches wherein the frame buffer management circuit includes a random access memory frame buffer to store the data frame (Col. 7, lines 11-12).

17. As per claim 10, Firoozmand teaches a method of transmitting the highest priority data frame available in a frame buffer, the method comprising:

a) reading data from a register to determine the priority of the highest priority data frame available for transmission (Col. 8, lines 10-12; Col. 7, line 65-Col. 8, line 1);

b) locating a frame buffer address at which the highest priority frame is stored in a frame buffer (Col. 7, lines 29-36);

c) writing the address of the highest priority data frame to a frame transmission circuit (Col. 8, lines 17-23; Col. 10, lines 24-27);

d) overwriting the address of the highest priority data frame with the address of a new highest priority data frame if a new higher yet priority data frame becomes available (Col. 13, lines 13-17); and

e) retrieving the new highest priority data frame from the frame buffer and transmitting the new highest priority data frame when the network media is available (Col. 13, lines 13-17).

18. As per claim 11, Firoozmand teaches the method of claim 10, further including updating the register upon transmission of a data frame to reflect transmission of the data frame (Col. 13, lines 36-45, lines 51-55).

19. As per claim 12, Firoozmand teaches the method of claim 11, wherein the step of locating the frame buffer address includes looking up the frame buffer address in a pointer table which stores the frame buffer address along with the priority of the frame stored at the address

(Col. 7, lines 29-36).

20. As per claim 13, Firoozmand teaches the method of claim 12, further including updating the pointer table upon transmission of a data frame to reflect transmission of the data frame (Col. 13, lines 36-45, lines 51-55).

*Conclusion*

21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents and publications are cited to further show the state of the art with respect to Network transmitter with data frame priority management for data transmission.

i. Tics Realtime Definitions Tics Realtime, 1584 Camden Village Circle, San Jose California 95124. Copyright Tics Realtime, 1996.

ii. US 5,077,655 Jinzaki.

iii. US 4,914,650 Sriram.

iv. US 6,097,734 Gotesman et al.

v. US 5,671,355 Collins.

vi. US 6,157,623 Kerstein.

vii. US 5,434,976 Tan et al.

viii. US 6,442,631 Neufeld et al.

ix. US 4,719,620 Machino et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chad Zhong whose telephone number is (703) 305-0718. The examiner can normally be reached on M-F 7am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John A Follansbee can be reached on (703)305-8498. The fax phone numbers for the

organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

CZ
October 9, 2003

JOHN FOLLANSBEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100